

Appln No. 09/764,936
Amdt date July 28, 2006
Reply to Office action of March 9, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A ~~fastening assembly~~ medical implant for use in the human body, comprising:

a fixing element to be fastened to a substructure, said fixing element having at least one bore;

at least one screw which can be passed through said at least one bore of said fixing element, and which can be screwed into said substructure, said screw having a shaft and a head; and

at least one bushing arranged in said at least bore, through which said screw can be passed for screwing said screw into said substructure, said bushing being able to swivel in several spacial directions when seated in said bore, said bushing further comprising a seat for at least partially receiving at least a partial surface of said head of said screw,

wherein an inner surface of said bore and an outer surface of said bushing are formed to be about spherically curved, such that a region of largest diameter of said inner surface and said outer surface is situated between an upper edge and a lower edge of said bore, and an upper portion of the bore has a diameter less than the region of largest diameter wherein said bushing is loss-proof pressed in ~~in~~ said bore, and

wherein said head of said screw and said seat of said bushing form a substantially form-locking threadless connection.

2. (Currently Amended) The ~~fastening assembly~~ medical implant of claim 1, wherein a symmetry axis of said bushing can be swiveled preferably over an entire azimuth angle of 360° in an angular range of 0° to at least 45° with respect to a symmetry axis of said bore.

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3. (Currently Amended) The ~~fastening assembly~~ medical implant of claim 1, wherein said bushing is mounted directly in said bore.

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7. (Currently Amended) The ~~fastening assembly~~ medical implant of claim 1, wherein said head of said screw and said seat of said bushing are formed conically to be complimentary to one another.

8. (Currently Amended) The ~~fastening assembly~~ medical implant of claim 1, wherein an upper edge of said seat of said bushing is rounded.

9. (Currently Amended) The ~~fastening assembly~~ medical implant of claim 1, wherein a periphery of said head of said screw is configured as a support surface, which in the tightened condition of said screw rests against a support surface of said bushing formed to be approximately complimentary to said support surface of said head.

10. (Currently Amended) The ~~fastening assembly~~ medical implant of claim 1, wherein said bushing has approximately the same height as said bore, and wherein said head of said screw has approximately the same height as said seat of said bushing.

11. (Currently Amended) The ~~fastening assembly~~ medical implant of claim 1, wherein said bushing is integrally formed of metal or of synthetic material, or comprises a metal body with said seat of said bushing then being at least partially coated with synthetic material.

12. (Currently Amended) The ~~fastening assembly~~ medical implant of claim 1, wherein it is used for securing a bone fracture in a human body, wherein said fixing element is a rigid plate or a rigid brace and said at least one screw is a bone screw.

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13. (Canceled)

14. (Withdrawn) A ~~fastening assembly~~ medical implant for use in the human body, comprising:

a fixing element to be fastened to a substructure, said fixing element having at least one bore;

at least one screw which can be passed through said at least one bore of said fixing element, and which can be screwed into said substructure, said screw having a shaft and a head;

at least one bushing arranged in said at least one bore, through which said screw can be passed for screwing said screw into said substructure, said bushing further comprising a seat for at least partially receiving at least a partial surface of said head of said screw,

wherein said bushing is received to be swiveled in said bore through a bearing element, which can be fixed to said fixing element and which is arranged in said bore, and wherein in this case an inner surface of said bearing element and an outer surface of said bushing are formed to be about spherically curved, such that a region of largest diameter of said inner surface and said outer surface is situated between an upper edge and a lower edge of said bearing element, and an upper portion of the inside surface of the bearing element has a diameter less than the region of largest diameter wherein said bushing is loss-proof pressed in said bearing element.

15. (Currently Amended) A ~~fastening assembly~~ medical implant for use in the human body, comprising:

a fixing element to be fastened to a substructure, said fixing element having at least one bore;

at least one screw which can be passed through said at least one bore of said fixing element, and which can be screwed into said substructure, said screw having a shaft and a head; and

at least one bushing arranged in said at least one bore, through which said screw can be passed for screwing said screw into said substructure, said bushing being able to swivel in

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several spacial directions when seated in said bore, said bushing further comprising a seat for at least partially receiving at least a partial surface of said head of said screw,

wherein the screw head is connected with the seat in a threadless press-fit manner when the screw is completely inserted, and

wherein an inner surface of said bore and an outer surface of said bushing are formed to be about spherically curved, such that a region of largest diameter of said inner surface and said outer surface is situated between an upper edge and a lower edge of said bore, and an upper portion of the bore has a diameter less than the region of largest diameter wherein said bushing is loss-proof pressed in said bore

wherein the head of the screw has a substantially cylindrical upper portion and a bottom portion between the upper portion and the shaft with a different curvature than the upper portion and extending radially inwardly; and,

wherein the seat has an upper portion and a lower portion corresponding in shape to the upper and lower portions of the head such that the head and seat fit together in a form-locking configuration.

16. (New) A medical implant for use in the human body, comprising:

a fixing element to be fastened to a substructure, said fixing element having at least one bore;

at least one screw which can be passed through said at least one bore of said fixing element, and which can be screwed into said substructure, said screw having a shaft and a head,

at least one bushing arranged in said at least bore, through which said screw can be passed for screwing said screw into said substructure, said bushing being able to swivel in several spacial directions when seated in said bore, said bushing further comprising a seat for at least partially receiving at least a shoulder of said head of said screw,

wherein an inner surface of said bore and an outer surface of said bushing are formed to be about spherically curved, such that a region of largest diameter of said inner surface and said

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outer surface is situated between an upper edge and a lower edge of said bore, wherein said bushing is loss-proof pressed in said bore, and

wherein the head of the screw has a substantially cylindrical upper portion and a bottom portion between the upper portion and the shaft with a different curvature than the upper portion and extending radially inwardly.

17. (New) The medical device of claim 16, wherein the seat has an upper portion and a lower portion corresponding in shape to the upper and lower portions of the head such that the head and seat fit together in a form-locking configuration.